

Math Tutor Resources

CASAS assessments provide a sense of the learner's current skill level. See staff for an explanation of your learner's results.

Most math learners are studying for a specific test, such as the GED, CASAS (for placement into NEDP), Virginia Placement Test (for placement into college courses), or ASVAB (for enlisting in the military).

- See staff for information about the target test: What skills are required? Does the test include geometry? Does it allow a calculator? Does it have a time limit?
- Workbooks, online practice tests, etc., are available for specific tests.

Math curricula are designed by experts to follow a "path" as skills build. We strongly recommend following a curriculum, to ensure that instruction is sequential and structured.

- In some cases, the learner already has the requisite knowledge and skills to achieve their goals and will just need practice with test-taking, time management, confidence, etc. In that case, reviewing practice tests and discussing testing strategy may be sufficient, with "detours" to solidify specific skills as needs arise.

Resources for general math skill improvement are available online and in LFL's library. Tutors who lack experience as math teachers will benefit from reviewing how a concept is taught on these various sites, or search YouTube for video lessons. (It can be challenging to figure out how to teach a concept that comes naturally to you!) An online resource can be the learner's primary curriculum, with workbooks providing supplemental practice as needed, or vice versa.

Popular online resources include the following:

- **Khan Academy** at khanacademy.org/math. Learners can create a free account and link it to a "coach" (the tutor). Popular modules include Arithmetic, Basic Geometry and Measurement, Pre-Algebra, Algebra Basics, Algebra 1, and Statistics and Probability.
- **Apex** is a subscription-based distance learning program which offers courses in GED preparation as well as general math skills. See LFL staff for a "seat."
- **GCFLearnFree** at <http://edu.gcfglobal.org> covers arithmetic, basic algebra, and fractions/decimals/percents. The content and design are approachable for beginners.
- **Math is Fun** at www.mathisfun.com provides activities and games. It's a fun supplement for extra practice.
- **Williamsburg Regional Library** offers online resources to its patrons. A library card is required. The following resources are available at www.wrl.org. (See Collections > Online Resources.)
 - **Universal Class** provides online classes on a wide variety of topics.
 - **Learning Express Library** provides eBooks and practice tests for common exams.

Many math learners at LFL do not have the **multiplication tables** memorized. Flashcards, apps, online games, etc., can help with this. (Ask staff about triangular flash cards.) While multiplication tables are important, don't drill them to the point of frustration, or to the

exclusion of learning other skills. Spend a bit of time each session on multiplication drills/practice, but move on to teach other concepts, and allow a calculator as needed.

Consider the **“Flipped Classroom”** for tutoring math: The learner’s homework is to watch videos, complete an online assignment, or read the textbook about a new concept. Time with the tutor is spent reviewing the concept, asking questions, and completing problems with assistance as needed.

LFL’s library includes **manipulatives** such as Fraction Stacks, Base 10 Blocks, legos, and more. Many learners benefit from manipulating tangible items in order to understand math concepts.

Graphic Organizers help learners to visualize concepts or break down tasks into manageable steps. For example, a Venn Diagram can help the learner remember the differences between area and volume. A Problem Solving Template helps with tackling word problems systematically. The Frayer Model vocabulary activity helps with understanding and remembering mathematical terms. A Number Line helps with understanding negative and positive integers, or the relationship between fractions and whole numbers.

Many learners struggle with interpreting **charts, tables, graphs, maps**, etc. If this is a challenge for your learner, consider an activity in which the learner selects a topic, gathers data, and creates original charts, graphs, etc. to display the information.

The **“Think Aloud”** and **“Teach-Back”** methods are powerful activities in math tutoring.

TUTOR TRAINING RESOURCES:

GED Testing Service offers bi-monthly tutor training webinars, “Tuesdays for Teachers.” Information is posted on the “Professional Development” page at www.GED.com (select “Educators & Admins” at top right). Many of these math webinars are useful for any math applications, not just GED. Tutors may attend live or view archived webinars on the GED site or YouTube:

- At GED.com, visit the Professional Development page in the Educators & Admins area.
- On YouTube, search for the “GED Testing Service” channel, then browse the playlist “Tuesdays for Teachers.”

The Virginia Adult Learning Resource Center (VALRC) offers a monthly **Math Instructor Online Support Group**. LFL tutors are welcome to attend. See Mary Lynch for the latest registration link, or contact the facilitator, Karen Ballengee, at VALRC: keballengee@vcu.edu or (800) 237-0178. Tutors may also request a Canvas account in order to view archived meetings. Contact vdesk@vcu.edu.

To view how a tricky concept is taught by professional math teachers, search for lessons on Khan Academy, YouTube, or other online resources.

LFL staff can also put you in touch with a mentor tutor who is an experienced math teacher.